

# Examining ageing in the British cohort studies: measurement, research and access

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STUDIES



CLS webinar  
8 Feb 2024



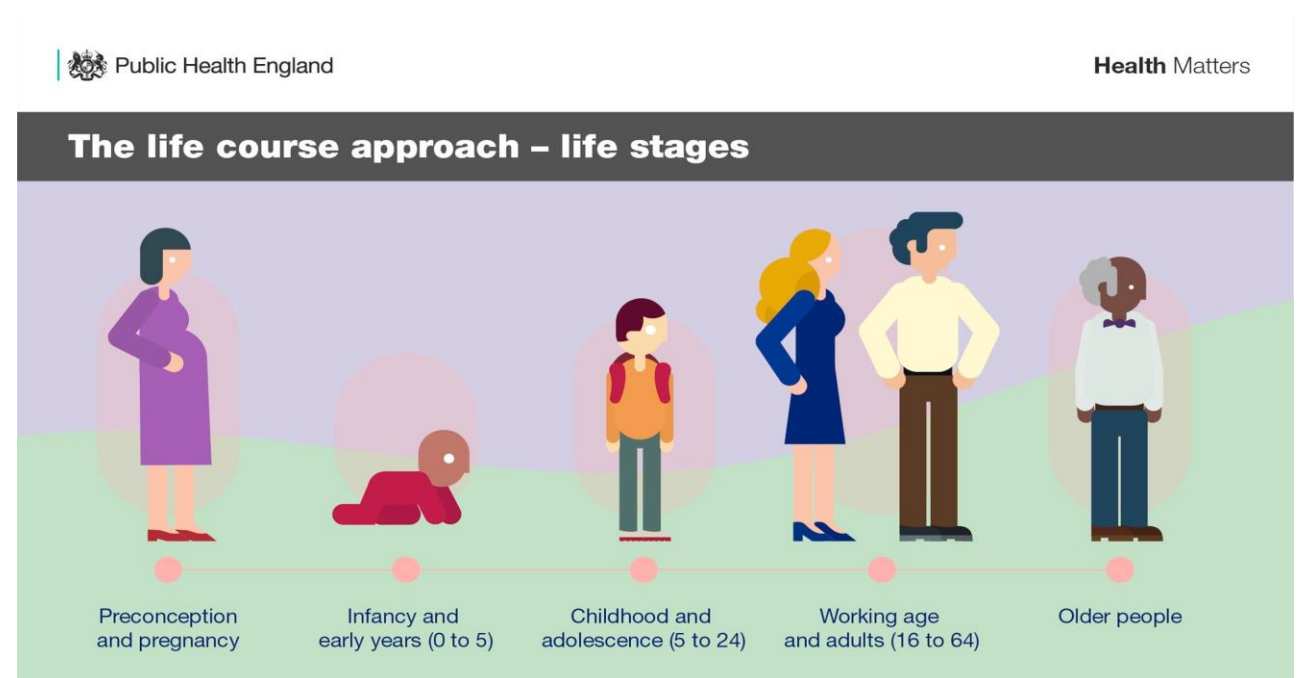
Economic  
and Social  
Research Council

# Aims

- Outline 'ageing' measures and data available in the CLS cohorts
- How to access ageing data in the CLS cohorts
- Highlight the types of ageing research that can be done using birth cohorts
- Understand how the British cohorts are a unique resource in the study of ageing
- Opportunity for Q&A

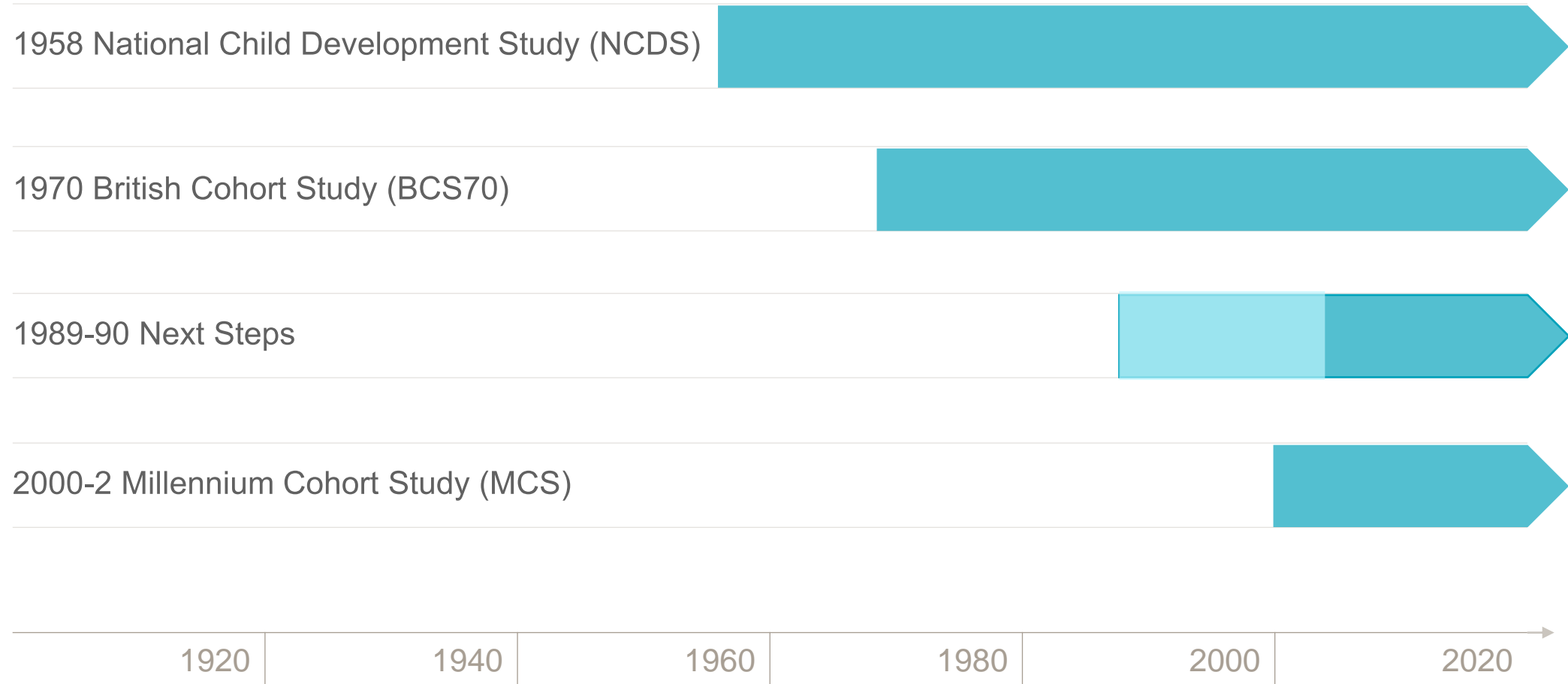
# Ageing in the British cohorts

- Life course approach
- Captures early-life and major transitions
- Multi-disciplinary – breadth of areas across the life course: economic, health, social (predictors, outcomes, in unison)
- Repeated measures – across life/ life-stages
- Cross-generational

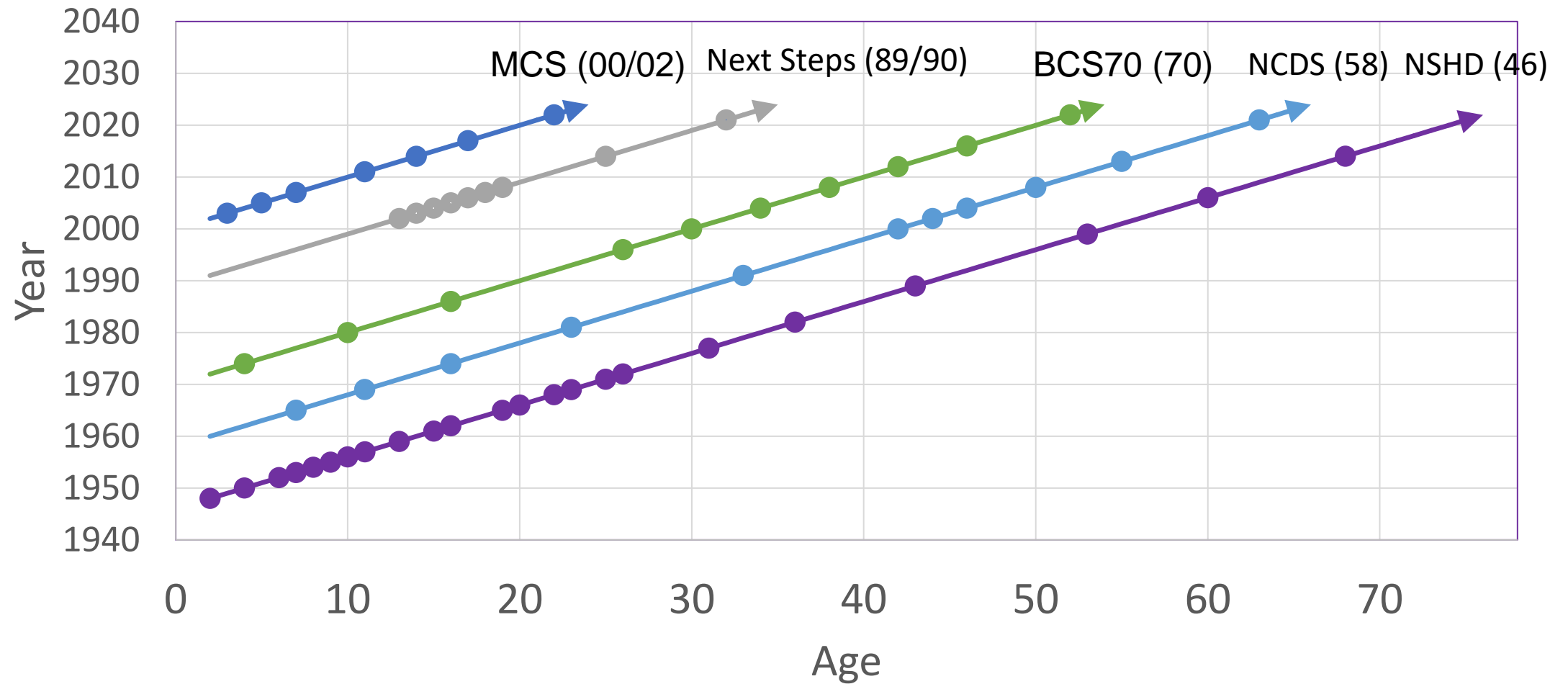


# Centre for Longitudinal Studies (CLS)

## current core studies









# Study timelines and future 2020-2030



# Example: NCDS A study of everyone born in one week in 1958 (GB)

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	1958	1965	1969	1974	1981	1991	2000	2003	2004	2008	2013	2020/3
	Birth	7	11	16	23	33	42	44	46	50	55	62/65
 main respondent	mother	parents	parents	cohort member / parents	cohort member	cohort member	cohort member	cohort member	cohort member	cohort member	cohort member	Cohort member
 others		school	school	school		children (1 in 3)						
 medical	medical exam	medical exam Ht/Wt	medical exam Ht/Wt	medical exam Ht/Wt	Ht/Wt	Ht/Wt		Ht/Wt blood - DNA biomedical		Ht/Wt	Ht/Wt	Ht/Wt biomedical
 survey instruments		cognitive mental h.	cognitive mental h.	cognitive mental h.	mental h.	mental h.	mental h.			cognitive mental h.		cognitive mental h.
 linked data				area of residence (census)	area of residence (census)					consent for health & economic records		consent for health & economic records
 response rate	17,415	15,425	15,337	14,654	12,537	11,469	11,419	9,377	9,534	9,790	9,137	@8,000

# COVID-19 and serology surveys

Available via the UKDS (EUL)

## COVID-19 surveys response

	NCDS	BCS70	Next Steps	MCS CMs	MCS parents
Wave 1	5,178	4,223	1,907	2,645	2,831
Wave 2	6,282	5,320	3,664	3,274	5,707
Wave 3	6,809	5,758	4,239	4,474	5,251

## Serology survey response

	NCDS	BCS70	Next Steps	MCS CMs	MCS parents
Invited	6,939	6,594	4,826	5,266	7,143
Consented	4,156	3,741	2,090	1,397	3,214
Blood sample returned	3,222	2,547	1,267	1,140	2,266

<https://cls.ucl.ac.uk/covid-19-survey/>

### Serology Survey:

- Participants who took part in one of three COVID-19 Surveys were invited to provide a finger-prick blood sample
- Two antibody tests conducted - N-assay and S-assay
  - N-assay more likely to identify naturally occurring antibodies through exposure to virus
  - S-assay more likely to identify antibodies occurring following vaccination
- Same antibody tests conducted in multiple longitudinal studies including ALSPAC, USoc, ELSA, TwinsUK and NSHD (1946 cohort), funded by National Core Studies.

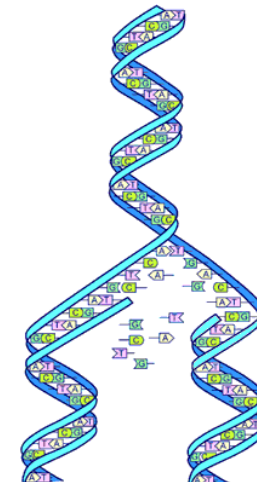
<https://cls.ucl.ac.uk/covid-19-survey/covid-19-antibody-testing/>

# Genetic data

- New data access system (typically <1 month for a response, simple form; [link](#)).
- **NCDS**: Available, combined Arrays n: 6,312
- **BCS70**: Available, n: 5,598
- **Next Steps**: saliva collection completed for age 32, funding for DNA extraction and genotyping.
- **MCS**: Available, n: 20,257
  - Trios (cohort member, mother, father)More details:  
<https://cls-genetics.github.io/>
- In future:
  - Polygenic scores for multiple health / social phenotypes
  - Data for DNA methylation - derivation of multiple epigenetic clock measurements

Biological samples available for further use on application:  
NCDS: blood, saliva  
BCS70: blood

CLS | Genetic data and biological samples ([ucl.ac.uk](https://ucl.ac.uk))





# Linked administrative data in the cohorts <https://cls.ucl.ac.uk/data-access-training/linked-data/>

	Country	Study	Data set	Access
Health	England	NCDS, BCS70, Next Steps, MCS	<b>Hospital Episodes Statistics (HES)</b> <ul style="list-style-type: none"> <li>Admitted Patient Care (APC)</li> <li>Critical Care (CC) – linked to APC</li> <li>Accident &amp; Emergency (A&amp;E)</li> <li>Outpatient Care (OP)</li> </ul>	Available at UKDS (e.g. <a href="#">link</a> ) via Secure Lab
	Scotland		<b>Scottish Medical Records (SMR)</b>	Available at UKDS (e.g. <a href="#">link</a> ) via Secure Lab
		NCDS, BCS70 MCS	<ul style="list-style-type: none"> <li>Inpatient, Outpatient, Prescribing information</li> </ul>	
		NCDS, BCS70 only	<ul style="list-style-type: none"> <li>Maternity inpatient</li> </ul>	
		MCS only	<ul style="list-style-type: none"> <li>Immunisation (SRS), Child Health Review , Birth and neonatal records</li> </ul>	
	Wales	MCS	<ul style="list-style-type: none"> <li>Health data assets from SAIL Databank (e.g. emergency department, outpatient) up to age 14 and for CM's parents</li> </ul>	Available at Secure Anonymised Information Linkage (SAIL)
			<ul style="list-style-type: none"> <li>Hospitalisations &amp; no. of diagnoses from ICD-10 &lt; age 11</li> </ul>	Available at UKDS via Secure Lab
Education	England	Next steps, MCS Next Steps	<ul style="list-style-type: none"> <li>KS1 to KS4</li> <li>KS5, Individual Learner records Company (SLC)</li> </ul>	Available at UKDS (e.g. <a href="#">link</a> ) via
	Scotland	MCS	<ul style="list-style-type: none"> <li>NPD KS1</li> </ul>	
	Wales	MCS	<ul style="list-style-type: none"> <li>Welsh NPD KS1 To KS4, Post 1</li> </ul>	

## Coming soon:

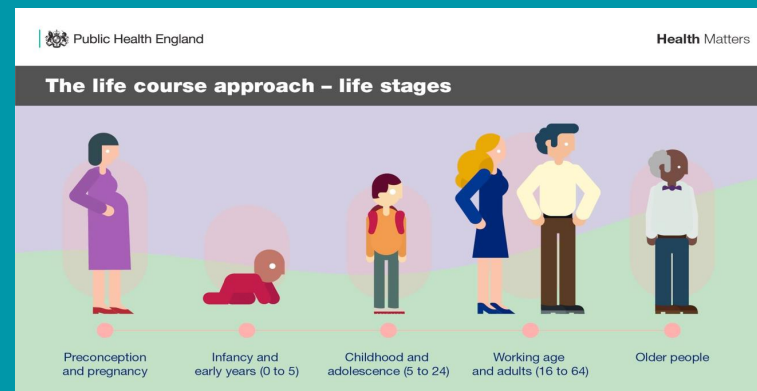
- HES data refresh in Next Steps, BCS70 and NCDS (beyond years 2017)
- Refresh of Welsh health dataset linked to MCS (up to age 14 and parents) UK
- Mental health data in MCS, Next Steps, NCDS, BCS70 (Early 2025)



# Ageing data

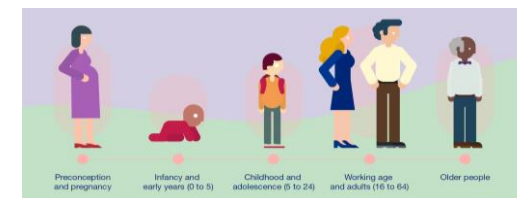
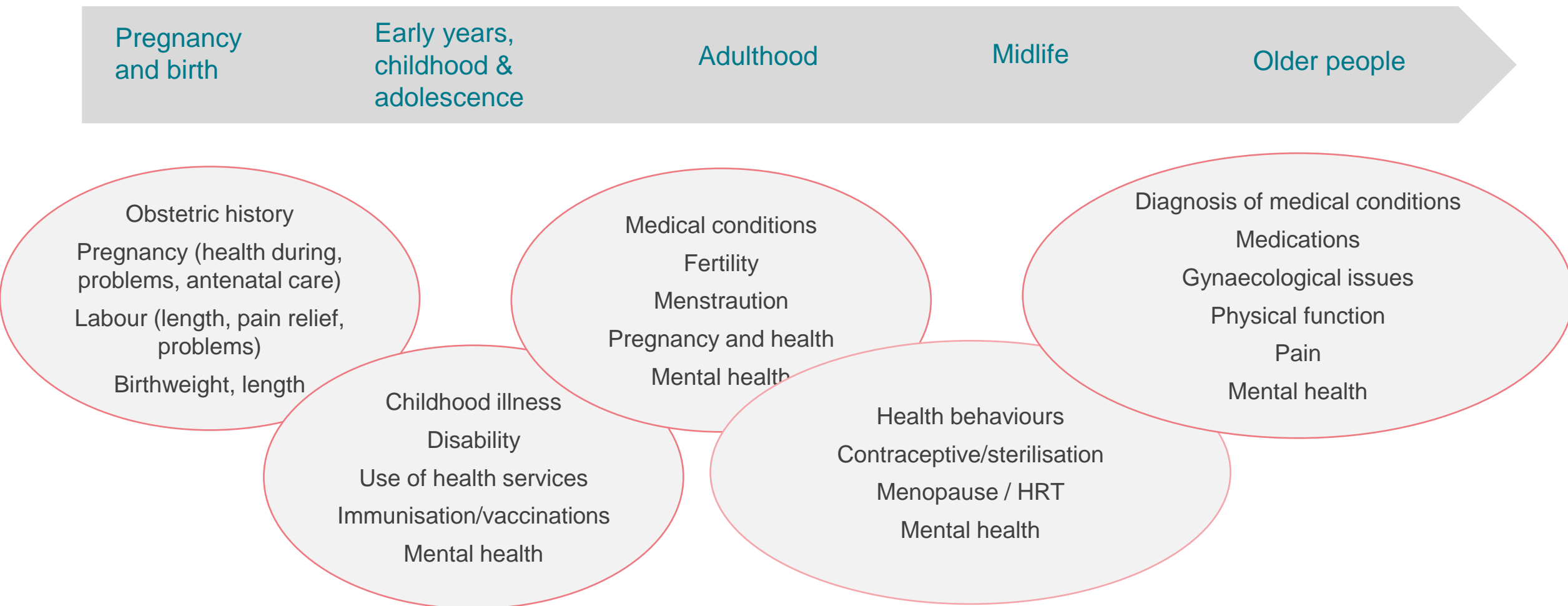
Transitions  
Life-events  
Specific focus:  
economic activity, physical health, cognition and mental health data

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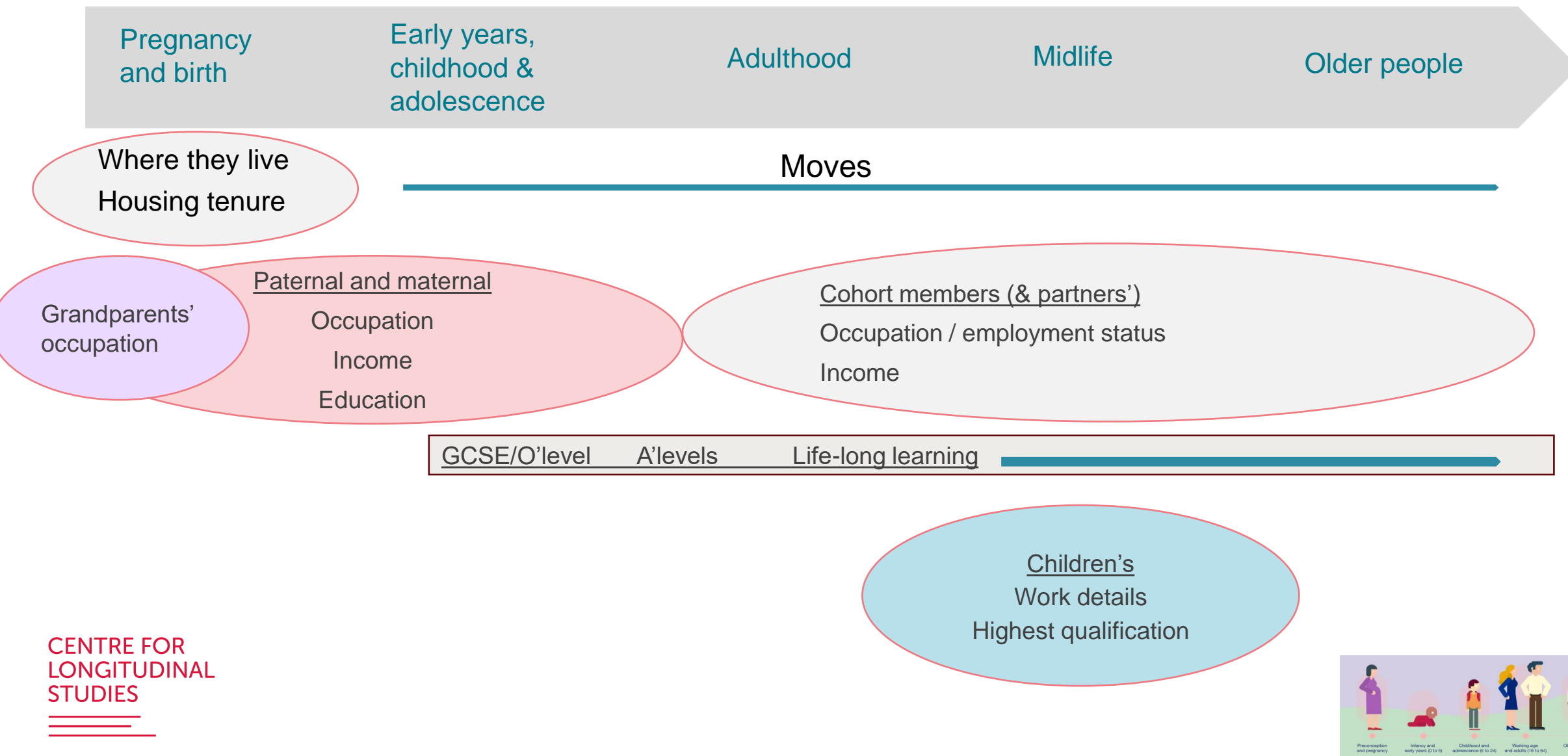
# Health – life-course data

Examples of the type of data collected in the Birth cohorts



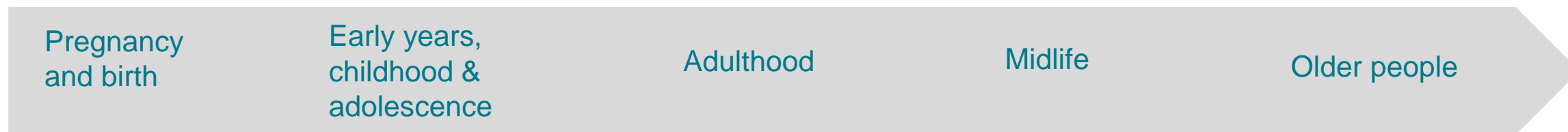
# Socio-economic – life-course data

Examples of the type of data collected in the Birth cohorts



# Family and relationships – life-course data

Examples of the type of data collected in the Birth cohorts



Household composition

Relationship to CM  
Partnership histories

## Parents (in laws)

Alive, age of death  
Relationship with parents  
Residential location  
Freq. contact / Care provision  
In-laws

Marital status /  
partnership formation ->  
Child care

Friends  
Family life  
Socialising  
Sexual behaviour

Cohabiting and non  
Partner relationship  
Partnership changes ->

Quality of  
relationship

Social support and relationships  
Emotional support  
Leisure time/activities

## Children

Number (own, adopted,  
partners', absent)  
Family activities/role  
Marital and parental status  
Location

## Grandchildren

Number of  
Care of

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Economic activity / retirement

Physical health

Cognition

Mental health / well-being

# Economic activity, income and wealth

Earnings and Income	NCDS 58	BCS 70	NS 89	MCS 01
Occupation	11, 16, 23, 33, 42, 46, 50, 55, 62/5	0, 10, 16, 26, 30, 34, 38, 42, 46, 52/3	25, 32	3, 5, 7, 11, 14, 17
Earnings from work	7, 11, 16, 23, 33, 42, 46, 50, 55, 62/5	10, 16, 26, 30, 34, 38, 42, 46, 52/3	14, 15, 16, 20, 25, 32	3, 5, 7, 11, 14, 17
Other income (investments, income support, benefits, etc.)	16, 23, 33, 42, 50, 55, 62/5	10, 30, 34, 38, 42, 52/3	25, 32	3, 5, 7, 11, 14, 17
Wealth (actual):				
Housing	55, 62/5	42, 52/3	-	11,14
Financial				
- Investments/Savings	23,33,50, 62/65	34, 42, 46, 52/3	32	11,14
- Debt	33, 62/5	42, 46, 52/3	25, 32	11,14
Pensions	62/65	-	-	
Inheritance received	23, 33, 62/5	42, 52/3	-	-
Transfers given	62/5	-	-	-

Parents, cohort members

# Overview of health measures

Physical health measures	NCDS 58	BCS 70	NS 89	MCS 01
Self assessed general health	7, 11,16, 33, 44, 46, 50, 55, 62/5	5, 10, 16, 34, 42, 46, 52/3	25, 32	3, 5, 7, 11, 14, 17
Medical conditions/ *long term illness	0, 7, 11, 26, 23, 33, 42, 44, 46, 50, 55, 62/5	0, 5, 10, 16, 26, 30, 34, 38, 42, 46, 52/3	14*, 15*, 16*, 17*, 18*, 19*, 20*, 25*	9m, 3, 5, 7, 11, 14, 17
Anthropometry	7,11,16, 23, 33, 42, 44, 50, 55, 62/5	10,16, 26, 30, 34, 42, 46, 52/3	25, 32	3, 5, 7, 11, 14, 17
Physical activity (leisure time)	11, 16, 23, 33, 42, 44, 46, 50, 55, 62/5	5, 10, 16, 34, 42, 46, 52/3	20, 25, 32	5, 7, 11, 14, 17
Diet related measures (intake, overeating)	7, 33, 42, 44, 62/5	10, 16, 30, 34, 42, 46, 52/3	25	9 months, 3, 7, 11, 14, 17
Smoking, drugs & alcohol consumption	16, 23, 33, 42, 44, 46, 50, 55, 62/5	10, 16, 26, 30, 34, 42, 46, 52/3	14, 15, 16, 17, 18, 19, 20, 25, 32	11, 14, 17
Sleep	7,16, 50, 62/5	16, 42, 46, 52/3	25, 32	14,17
DNA /biomarkers	44 genetic & bio, 62/5	46 (genotyping & bio)	Planned for age 32	14 (genetic)
Linked Health admin. data	England & Scotland	England & Scotland	England	England, Scotland & Wales



# Anthropometrics / physical function

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	NCDS 58	BCS70	Next Steps 89	MCS 01
Height, Weight and BMI	7, 11**, 16, (23), 33, 44/5, (50), (55), 62/65	5*,10**, 16, (26), (30), (34), (42), 46, (52/53)	(25, 32)	3**,5,7,11,14,17
Head circumference	7	5,10,16		
Hip and waist circumference	44/45, 62/65	46		5,7 (waist)
Body fat		46		7,11,14,17
Vision	7,11,16, 44/5, 62/5	10, 16		
Audiometry	7,11,16, 44/5	10,16,		
Laterality	7	10,16		
Co-ordination	7,11,16	10,16		
Speech	7,11,16	10		
Blood pressure	44/45, 62/65	10, 16, 46		
Pulse	44/45	10		
Respiratory function (FEV1 and FVC)	44/45			
Maximal grip strength	62/65	46		
Leg-raise/balance	62/65	46		
Timed normal walking speed	62/65			

\* Height only \*\* also parents height and weight () self-report

# Biomarkers in NCDS and BCS70

extracted from blood samples

	NCDS (44/5)	NCDS (62/5)	BCS70 (46)
Total and HDL cholesterol	Y	Y	Y
Triglycerides	Y	Y	Y
C-reactive protein (CRP)	Y	Y	Y
Glycated haemoglobin (HbA1c)	Y	Y	Y
Insulin-like growth factor 1 (IGF-1)	Y		Y
Total and allergen-specific immunoglobulin E House Dust Mite, Cat and Grass Pollen Allergens	Y		
Fibrinogen	Y		
Tissue plasminogen activator (t-PA)	Y		
Von Willebrand factor (9vWF)	Y		
Serum 25-hydroxyvitamin D	Y		
Fibrin D-dimer	Y		
Ferritin			Y
Cytomegalovirus			Y
Red blood cell count			Y

NCDS (62/5) :  
Metabolomics – metabolic  
biomarker profiles e.g. fatty  
acids, apolipoproteins,  
amino acids, fluid balance,  
glycolysis related  
metabolites, inflammation

# Cognitive measures in childhood

(Main) cognitive ability/skill	NCDS 58	BCS 70	NS 89	MCS 01
Developmental milestones		22 months*, 42 months*		9 months
School readiness (BSRA-R)				3
Verbal reasoning	11	10		11
Non-verbal reasoning	11	10,16		5
Verbal skills (i.e. reading, comprehension, vocabulary, literacy)	7,11,16	5,10,16		3,5,7,14/14
Mathematics and numeracy	7,11,16	10,16		7,17
Visual/spatial processing	7	5		5,7
Decision making				11,14
Memory (spatial working)		10		11

\* sub-sample

# Cognitive measures in adulthood

(Main) cognitive ability/skill	NCDS 58	BCS 70	NS
Verbal skills: APU Vocabulary test National Adult Reading Tests (NART)		42 52/3	
Literacy and numeracy	37*	21*,34	
Executive function: Verbal fluency (animal naming):	50, 62/5	46, 52/3	
Memory: Immediate and delayed word recall Backward digit span	50, 62/5	46, 52/3	32
Processing speed: Timed letter search/cancellation	50, 62/5	46, 52/3	

# Mental health scales in childhood and adolescence only

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Mental Health measure	NCDS (58)	BCS70	NS (89/90)	MCS (01/2)
Rutter Behaviour Scales	7, 11, 16, 16	5, 10, 16		
British Social Adjustment Guide	7, 11			
Conners Hyperactivity Rating Scale		10, 16		
Child Development Scale*		10		
Malaise Inventory: Psychological distress		5, 16, 16		9m
GHQ-12: Psychological distress		16	14, 16	
Strengths and Difficulties Questionnaire (SDQ)				3, 5, 7, 7, 11, 11, 14, 17, 17
Kessler 6 (K6)				3,5,7,11,14,17, 17
Mood & Feelings Questionnaire (Short)				14

Parent, teacher, self-report and maternal mental health

\*items from Rutter, Conners and Swansea Assessment Battery

# Mental health scales in adulthood

Mental Health measure	NCDS (58)	BCS70	NS (89/90)
Malaise Inventory: Psychological distress	23, 33, 42, 50, 62/5	16, 26, 30, 34, 42, 46, 52/3	
GHQ-12: Psychological distress	42	30	25, 32
Kessler (4)		34	
36 Item Short Form Survey (SF-36) – health incl. general mental health	50	46, 52/3	
- Mental Health Inventory (MHI-5)	62/5		
<i>Clinical Interview Schedule – Revised (CIS-R)</i>	44		

# Well-being scales in the cohorts

Well-being measure	NCDS (58)	BCS70	NS (89/90)	MCS (01/2)
Warwick-Edinburgh Mental Wellbeing Scale (WEMBS)	50, 62/5	42, 46, 52/3		17
Life satisfaction	33, 42, 46, 50, 62/5	26, 30, 34, 42, 46, 52/3	20, 25, 32	9m,3, 5, 7,11, 11
Happiness			32	9m,3, 5, 7,11, 11, 14
Self-Esteem <sup>1</sup> Lawseq <sup>2</sup> 2 items useful/worthless <sup>3</sup> Shortened Rosenberg Scale		10,16 <sup>1</sup>	14,16 <sup>2</sup>	9m,11,14,17 <sup>3</sup>
Self-efficacy	33, 42, 46, 50	26, 30, 34, 42, 52/3		
Quality of Life Scale (CASP- 12/6 item)	50, 55, 62/5			
Loneliness (UCLA)	62/3	52/3	32	

# Resources and access to data


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Economic  
and Social  
Research Council



Data freely available to researchers, government analysts and third sector workers: <https://ukdataservice.ac.uk/>

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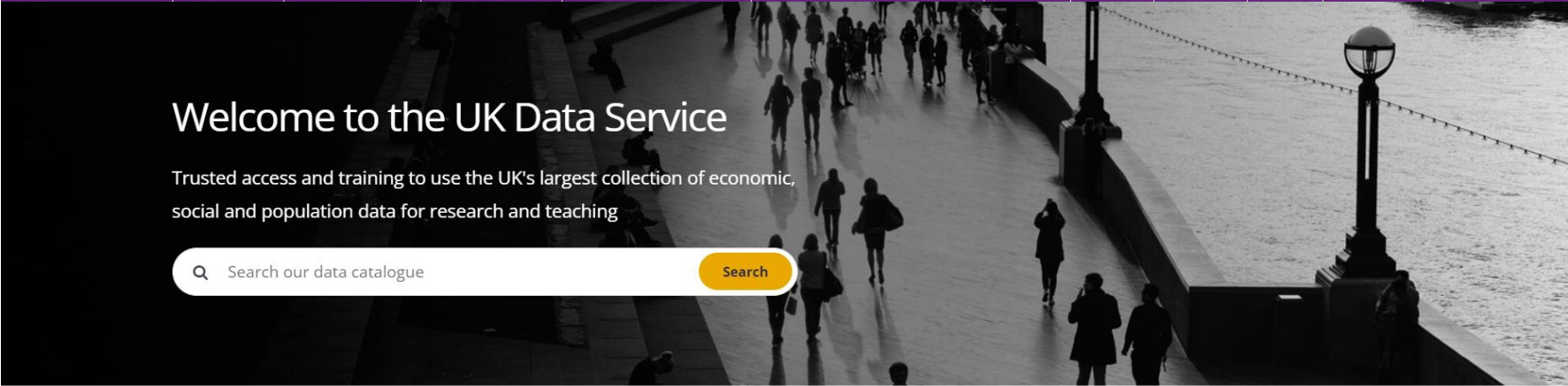
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# Welcome to the UK Data Service

Trusted access and training to use the UK's largest collection of economic, social and population data for research and teaching

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Key services



Cohort	Link
NCDS	<a href="http://discover.ukdataservice.ac.uk/series/?sn=2000032">http://discover.ukdataservice.ac.uk/series/?sn=2000032</a>
BCS70	<a href="http://discover.ukdataservice.ac.uk/series/?sn=200001">http://discover.ukdataservice.ac.uk/series/?sn=200001</a>
Next Steps	<a href="http://discover.ukdataservice.ac.uk/series/?sn=2000030">http://discover.ukdataservice.ac.uk/series/?sn=2000030</a>
MCS	<a href="http://discover.ukdataservice.ac.uk/series/?sn=2000031">http://discover.ukdataservice.ac.uk/series/?sn=2000031</a>

# Access to different types of data at the UKDS

Access to data held by the UK Data Service varies depending on how the data is classified:

Safeguarded data available under End User Licence (EUL): data with a low level of sensitivity and disclosivity.

- Most of our data are available under this licence.
- Your application is authorised directly by the UK Data Service, and you can download the data directly from there.

Special safeguarded data available under Special Licence (SL): access to moderately sensitive or disclosive data. Access through the UK Data Service and application approved by CLS before you can download the data.

Controlled data available under Secure Access Licence (SA) for access to the most sensitive and/or potentially disclosive data. Access through the UK Data Service and attend a specialised training course. CLS approval and access via UK Data Service SecureLab

For details on specialist linked administrative data, genetic data and more information on data access please visit: <https://cls.ucl.ac.uk/data-access-training/data-access/>

# Resources available: CLS website

<https://cls.ucl.ac.uk/>

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1958 National Child Development Study

On this page:

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ncds

National Child Development Study

The 1958 National Child Development Study (NCDS) is following the lives of an initial 17,415 people born in England, Scotland and Wales in a single week of 1958. It started in 1958 at birth, as the Perinatal Mortality Survey.

+ more

NCDS sweeps

Since the initial birth sweep, NCDS cohort members have been followed up ten times. We paused the Age 62 Sweep due to the pandemic but this is now underway once again. Click on a sweep below to learn more about the information collected.

Year	1958	1965	1969	1974	1981	1991	2000	2002	2004	2008	2013	2020
Age	Birth	7	11	16	23	33	42	44	46	50	55	62

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1970 British Cohort Study

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BCS70

1970 British Cohort Study

The 1970 British Cohort Study (BCS70) is following the lives of around 17,000 people born in England, Scotland and Wales in a single week of 1970.

+ more

BCS70 sweeps

Since the birth survey in 1970 there have been nine 'sweeps' of all cohort members. Click on a sweep below to learn more about the information collected. The latest sweep, at age 51, is now underway.

Year	1970	1975	1980	1986	1996	2000	2004	2008	2012	2016	2021
Age	Birth	5	10	16	26	30	34	38	42	46	51

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Next Steps

On this page:

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NEXT STEPS

Following the Next Steps Cohort

Next Steps sweeps

There have been nine main Next Steps sweeps, including the Department for Education. Click on a sweep below to learn more.

Year	2004	2005	2006	2007	2008
Age	14	15	16	17	18

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Millennium Cohort Study

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CHILD OF THE NEW CENTURY

The Millennium Cohort Study (MCS), known as 'Child of the New Century' to cohort members and their families, is following the lives of around 19,000 young people born across England, Scotland, Wales and Northern Ireland in 2000-02. The study began with an original sample of 18,818 cohort members.

+ more

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About the 1958 National Child Development Study (NCDS)

October 18th 2022

1:23:36

UCL

Introduction to the 1970 British Cohort Study

October 18th 2022

1:12:47

UCL

Introduction to Next Steps: a longitudinal study in England

Wednesday 19th April 2023

48:14

UCL

Introduction to the Millennium Cohort Study

20 June 2022 10h-2.30pm

1:27:02

Introduction to the 1958 National Child Development...


Introduction to the 1970 British Cohort Study

Introduction to Next Steps: a longitudinal study in England

Introduction to the Millennium Cohort Study

# Resources available on each cohort and sweeps: User Guide, technical resources and questionnaires

Institute of Education





1970 British Cohort Study


Age 46 Survey

User Guide (Version 2)

May 2023

CENTRE FOR LONGITUDINAL STUDIES







COVID-19 Survey in Five National Longitudinal Studies


Waves 1, 2 and 3

User Guide (Version 3)

June 2021

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MRC Unit for Lifelong Health and Ageing





November 2019


Millennium Cohort  
Seventh Sweep (MC7)

Technical Report

Prepared for the Centre for Longitudinal Studies, UCL Institute of Education

Next Steps Age 25 Survey

Technical Report



NatCen

Social Research that works for society

Authors: Jess Bailey, Josi Breeden, Curtis Jessop, Martin Wood

Date: January 2017

Prepared for: Centre for Longitudinal Studies, UCL

NATIONAL CHILD DEVELOPMENT STUDY

2013 Follow-up

MAIN STAGE QUESTIONNAIRE DOCUMENTATION

1970 BRITISH COHORT STUDY: 2016-18 SURVEY

Self-completion Questionnaire

HOW TO FILL IN THE QUESTIONNAIRE

- Please complete the questionnaire using black or blue ink.
- The questionnaire will be read by a scanner, so please mark your answers by putting a cross in the appropriate box ☒.
- If you make a mistake or change your mind please completely fill the box to show the mistake ☐ and then cross the correct answer.
- Sometimes you will be asked to write a number in a box like this: 10 Please keep your answer within the boxes.
- Your answers will be treated in the strictest confidence and all findings will be made anonymous in the reporting of results so that responses cannot be traced back to individuals.
- When you have completed the questionnaire please seal it inside the envelope provided and hand it back to the nurse / interviewer when they visit.

INTERVIEWER TO ENTER:

Interviewer ID Number

Participant Serial Number

Participant First Name

Participant Gender

☐M ☐F

Participant Date of Birth

BCS70

1970 British Cohort Study

BCS70 MAIN QUESTIONNAIRE V1

# CLS training and support

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Data access and training

## Training and support

Welcome to the CLS training and support page. This page features recordings from past CLS training events, often with accompanying slides. Please use the menu below to navigate. If you're looking for recordings of our COVID-19 survey training, please head to our separate [COVID-19 training page](#). There are also many more training videos to explore on our [CLS YouTube Channel](#).

### Upcoming training events

For upcoming training events, please see our [events page](#). If you would like to hear about future training by email, as well as other CLS news, please [sign up](#) to our mailing list.

On this page:

1. Getting started

2. The cohorts in focus

3. Enhanced data in focus

4. Themes in focus

### Training videos on this page

Upcoming training events	
Genetics and epigenetics data in the British cohort studies	6 March 2024 12-1 pm
Methods: Cross-cohort analyses	June 2024

<https://cls.ucl.ac.uk/events/>



## British birth cohorts

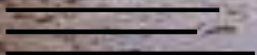
- unique resource in the study of ageing
- types of ageing research that can be done

**A cross generational life course approach to healthy and inclusive ageing**



**UCL**

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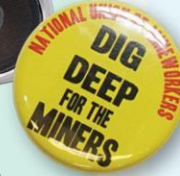
1946

1946 National Survey  
of Health and  
Development



1970

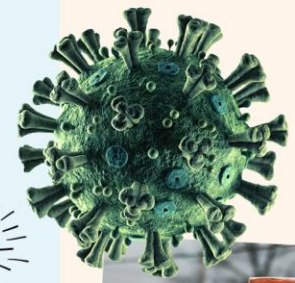
BCS70  
1970 British  
Cohort Study



2000

MILLENNIUM  
COHORT STUDY

Photo: Miguelon756-5303



EARLY LIFE COHORT  
FEASIBILITY STUDY

2022



ncds  
National Child  
Development Study

1958



NEXT  
STEPS  
LEARNING FROM YOUR GENERATION

1989



NHS



Photo: BiblioArchives/  
LibraryArchives



# Healthy ageing through the life course lens

- Long term effects of **early life circumstances**
- **Intergenerational cycles** in poverty and in health
- Life course **transitions**
- Quality of life, functioning and productivity, **post the onset** of chronic illness
- Reversibility/Resilience
- **Changing experiences** of different generations
- External **shocks** (pandemic, cost of living crisis)

## UK state pension age will soon need to rise to 71, say experts

Research on life expectancy and birthrates shows that ill health makes status quo unsustainable

● **'I can't take it much longer': workers too young for UK pension**



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## Pension income needed to retire jumps as family costs rise

2 hours ago · Comments



B B C

NEWS

# Reducing bias

- Causal inference
  - ✓ Availability of life course data to adjust models and make the **no omitted variables/residual confounding** assumption more plausible
  - ✓ Rich life course data to explore **for potential negative controls/falsification tests**
  - ✓ Rich life course data to explore for **potential instrumental variables**
- Missing data
  - ✓ Availability of rich life course data to handle missing data due to attrition and **restore sample representativeness**





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# Early life determinants of mid-life health mortality



Research

JAMA Psychiatry | [Original Investigation](#)

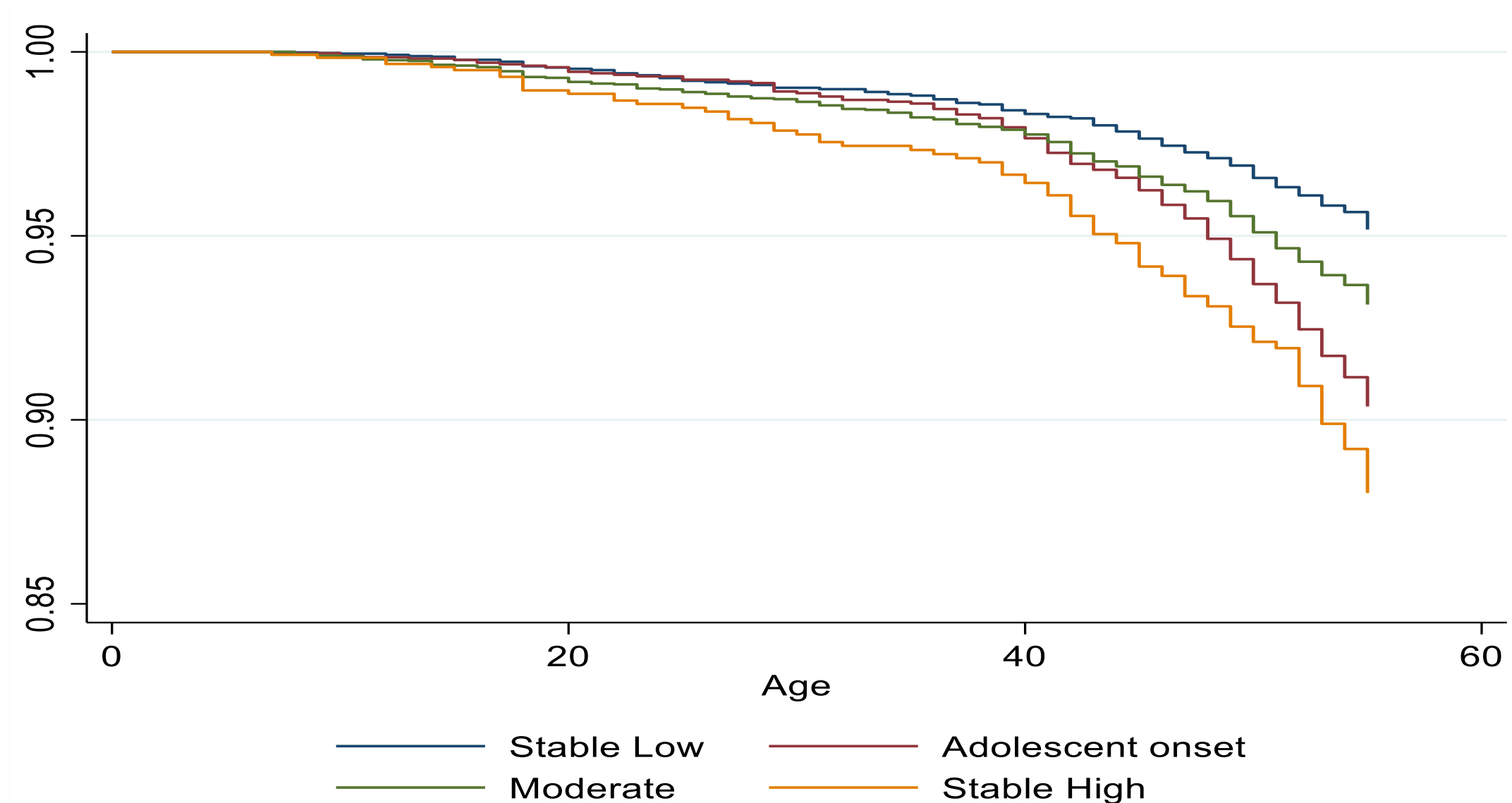
## Association of Early-Life Mental Health With Biomarkers in Midlife and Premature Mortality Evidence From the 1958 British Birth Cohort

George B. Ploubidis, PhD; G. David Batty, PhD, DSc; Praveetha Patalay, PhD;  
David Bann, PhD; Alissa Goodman, MSc

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# Deaths of despair? Early life mental health trajectories and probability of survival





Long-term psychological distress trajectories and the COVID-19 pandemic in three British birth cohorts: A multi-cohort study

Dario Moreno-Agostino, Helen L. Fisher, Alissa Goodman, Stephani L. Hatch, Craig Morgan, Marcus Richards, Jayati Das-Munshi, George B. Ploubidis

Published: April 4, 2023 • <https://doi.org/10.1371/journal.pmed.1004145>

19

**Cubs' day out**

Critically endangered Sumatran tigers Alf and Raya stick close to their mother, Kasarna, after emerging from their den for the first time at Chester Zoo yesterday. The cubs were born in January at the zoo but have only just begun venturing out into their enclosure.

PHOTOGRAPH BY GUY LAWRENCE

**National**

The Guardian Wednesday 5 April 2023



**Covid-19 pandemic triggered second midlife crisis for over-50s, study finds**

**Amelia Hill**

The mental health impact of the pandemic was so severe that it prompted a "second midlife crisis" for the over-50s, with women worst affected. A study has found that just before the second national lockdown began, people born in Britain in 1958 and 1970 were experiencing higher levels of psychological distress on average than they had ever experienced in adulthood, surpassing previous peaks in their early 40s. Data collected over four decades from more than 16,000 British-born adults, which was analysed by academics from University College London and King's College London, also found that those born in 1948 had similar levels of psychological distress to their previous midlife peak in their early 50s. This peak of anxiety during the first year of the pandemic was higher for women than men across all age groups, widening the already substantial gender inequalities in mental health that existed before the pandemic.

"Most of the studies we analysed propose that this is due to a totally different share of the domestic and caring responsibilities during lockdown," said Dr Dario Moreno-Agostino, the report's lead author. "An increase in gender-based violence and abuse, as well as additional financial constraints, are also suggested because there's evidence showing that women were in more precarious situations than men. For instance, from the work point of view, more care workers – typically women – were exposed to more difficulties than other professions."

This unforeseen second midlife mental health crisis may accelerate and exacerbate the onset and occurrence of chronic mental health and health difficulties, increasing pressures on the NHS, the study suggests. "There is the question of resilience, but we know that anxiety and depression are the leading causes of disease worldwide," said Moreno-Agostino. "Those mental health problems are closely linked to numerous physical health problems – right up to and including increased mortality."

"The fact that we are observing an unexpected new peak of the very mental health problems that can lead to these long-term trajectories is deeply concerning."

The study contradicts a recent analysis by McGill University researchers in Canada, which found Covid-19 may not have taken as great a toll on the mental health of most people as earlier research indicated. That research, based on a review of 137 studies from around the world, said some of the public narrative around the mental health impacts of Covid-19 were based on "poor-quality studies and anecdotes", which became "self-fulfilling prophecies", adding that there was a need for more "rigorous science".

Along with other experts, Moreno-Agostino disputed these findings. He said that McGill's "worldwide" approach could not accurately assess the impact of the pandemic on individual groups such as children, women and people with low income or pre-existing mental health problems in specific countries.

In 2021, researchers at the University of Queensland found that anxiety and depression around the world had increased dramatically in 2020. In April 2022, the Royal College of Psychiatrists observed a sharp rise in mental ill health. In February 2022, NHS leaders warned of a "second pandemic" of depression, anxiety, psychosis and eating disorders.

Prof Peter Tyrer, emeritus professor in community psychiatry at Imperial College London, said the health came with the vaccine rollout and as society opened up.

Mark Davies, 60 (below), had experienced mild to moderate depression before and had coped by socialising and staying active. But when the London-based charity worker lost his father on the second day of lockdown, his grief blurred into depression. "I had to deal with the grief alone – even the funeral had to be fully virtual," he says. "Living alone was very isolating and all social life was stopped. I could not even travel to go walking in the nearby countryside. It was a blur of days with no events in them."

About a year into the pandemic, he began to undergo cognitive behavioural therapy, and with the loosening of social restrictions started to feel better. But he says there has been a lasting impact. "I look forward to things less life's a bit greyer," Celia Skopelitti

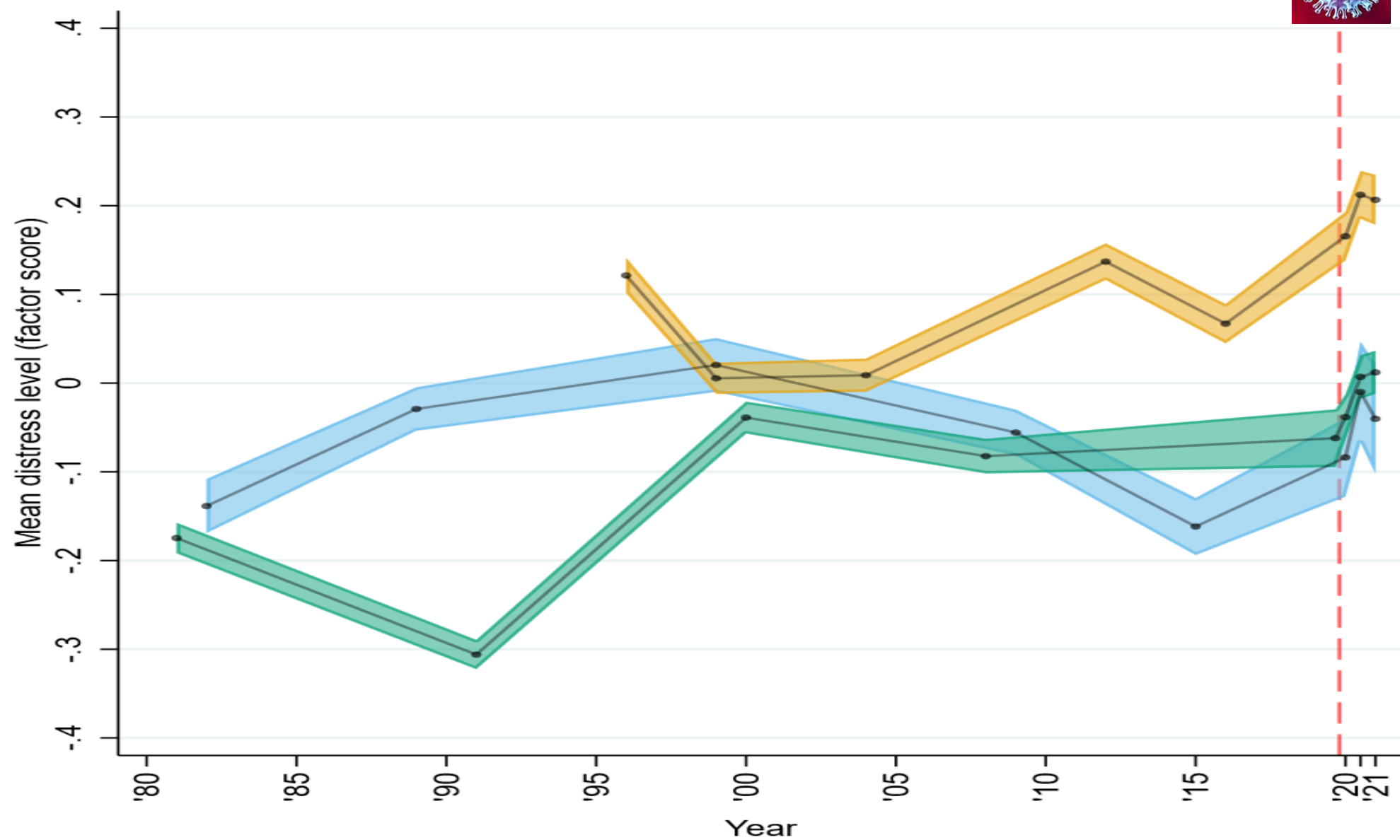
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The Guardian Newspaper of the year

Pandemic triggered 'second midlife crisis' among over-50s, study finds

Women hit worst by mental health strains, with more domestic and caring duties amid Covid lockdowns

● 'I struggled to cope': over-50s in UK describe Covid's toll on mental health



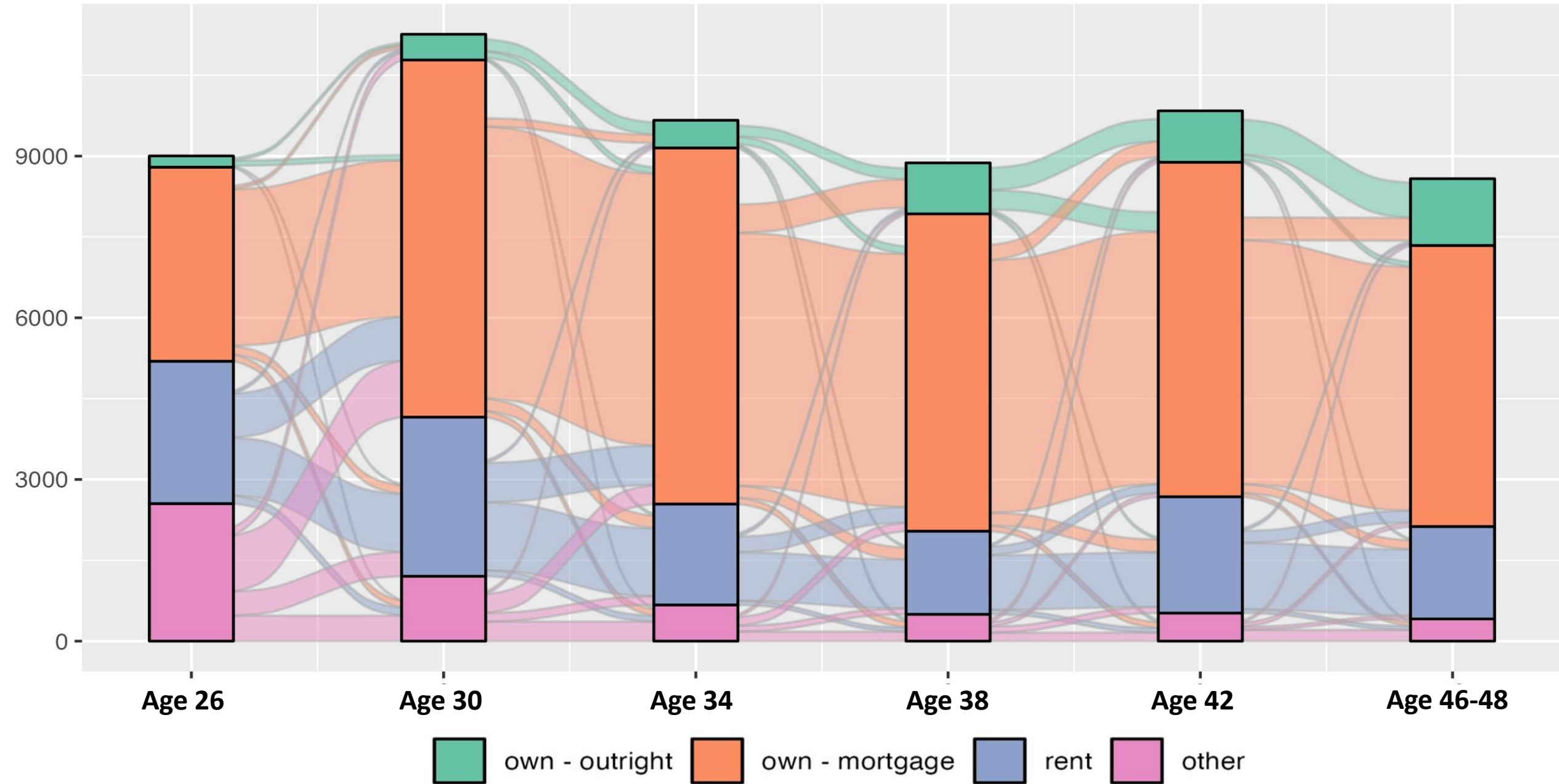
1946 NSHD

1958 NCDS

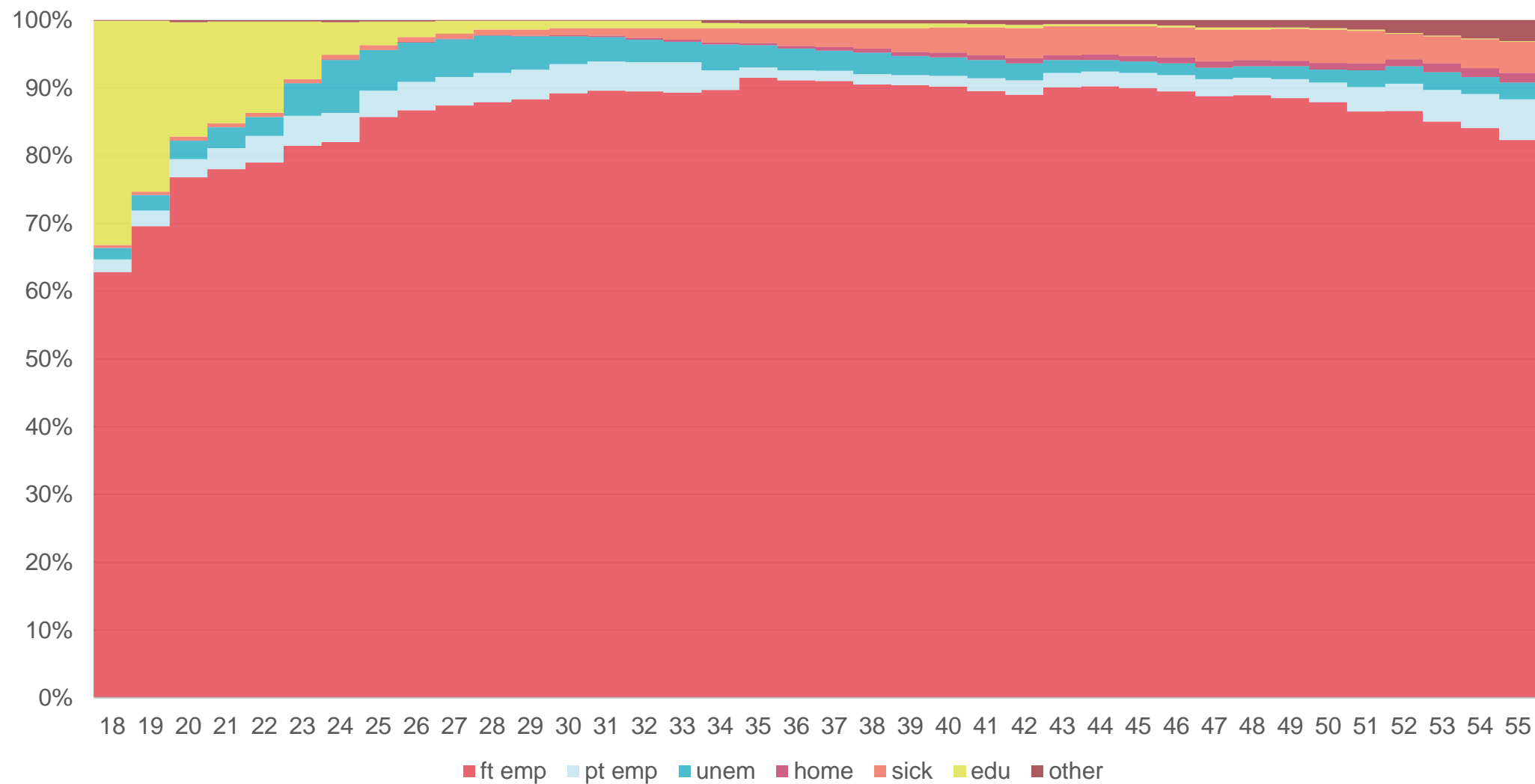
1970 BCS



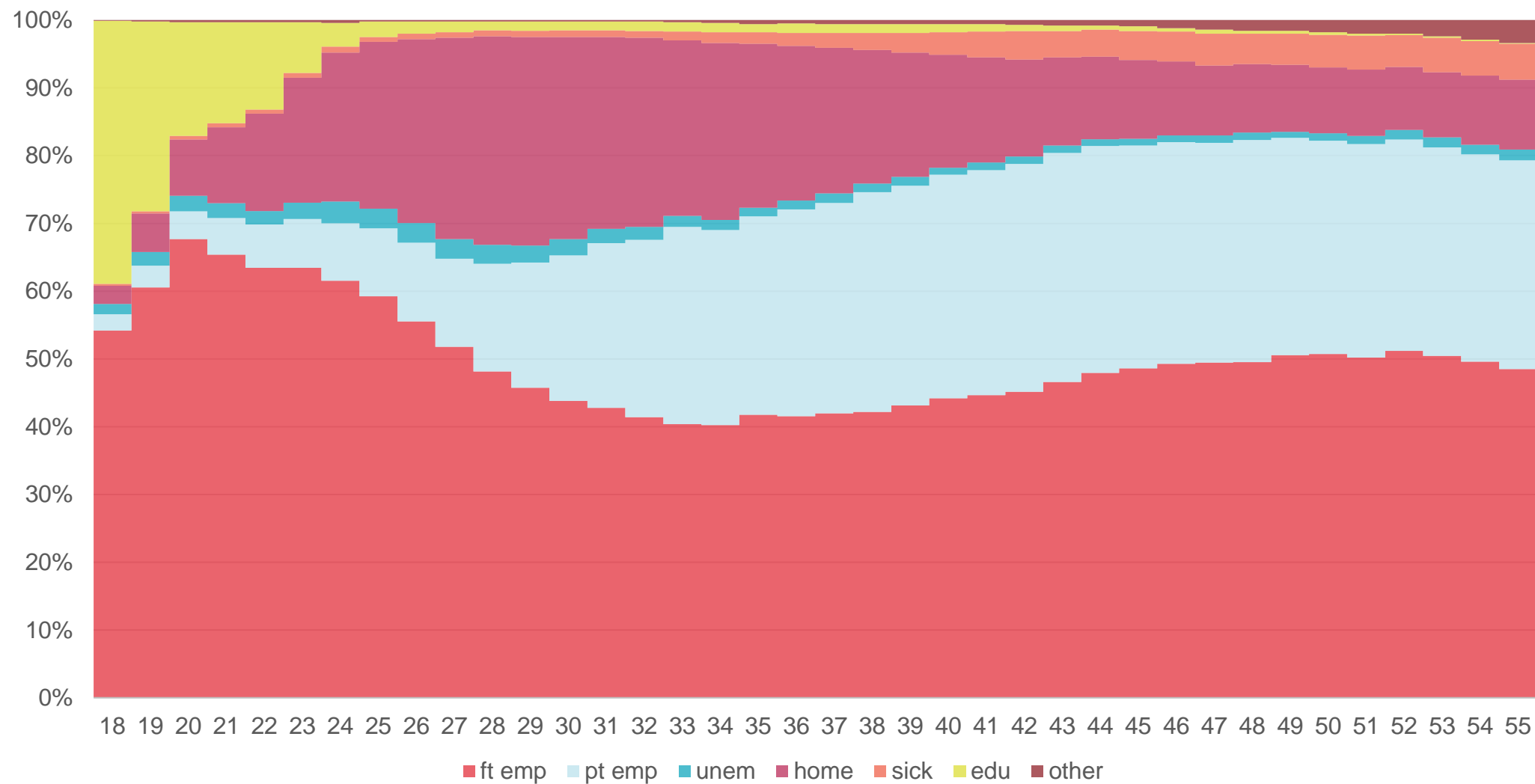
## BCS70 – Housing tenure in adulthood



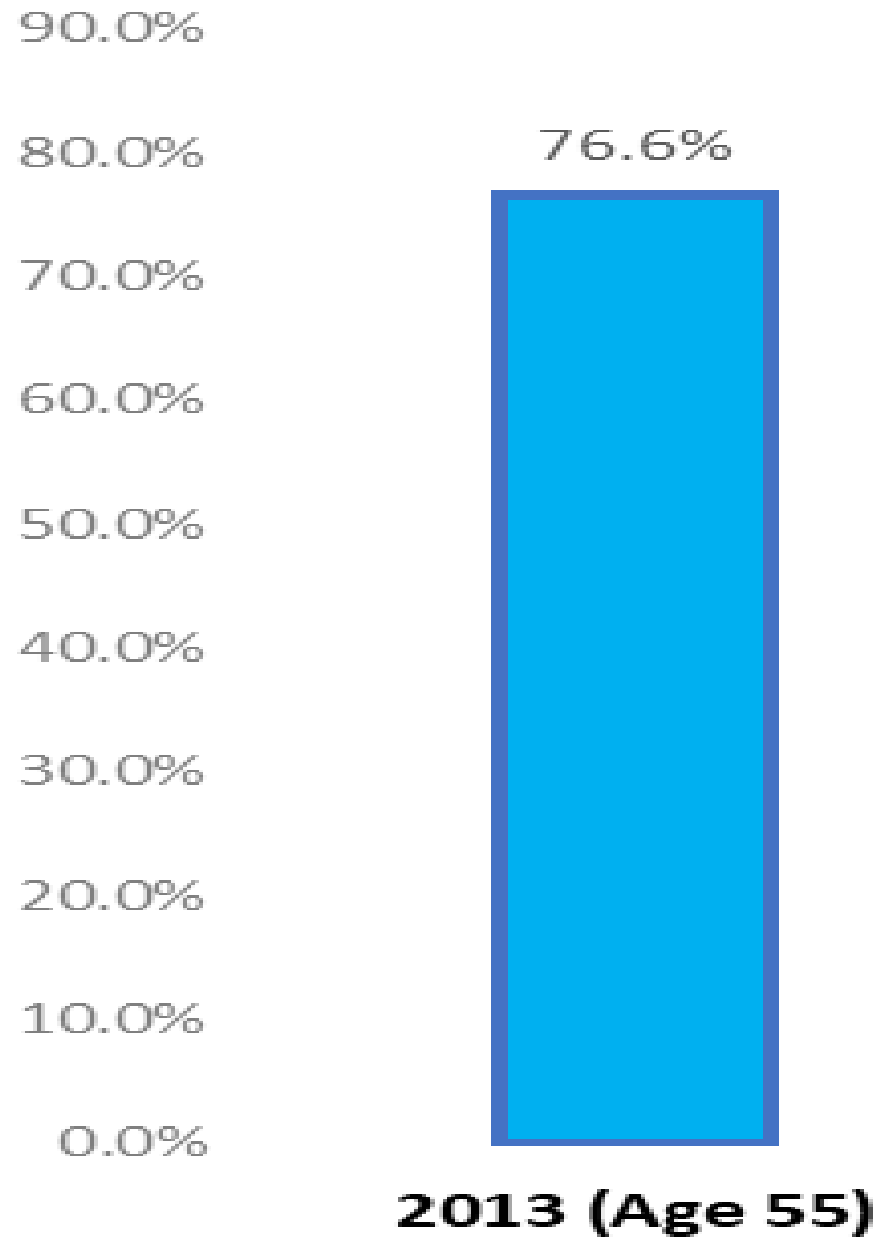
# Men: Working life histories by age 55



# Women: Working life histories by age 55

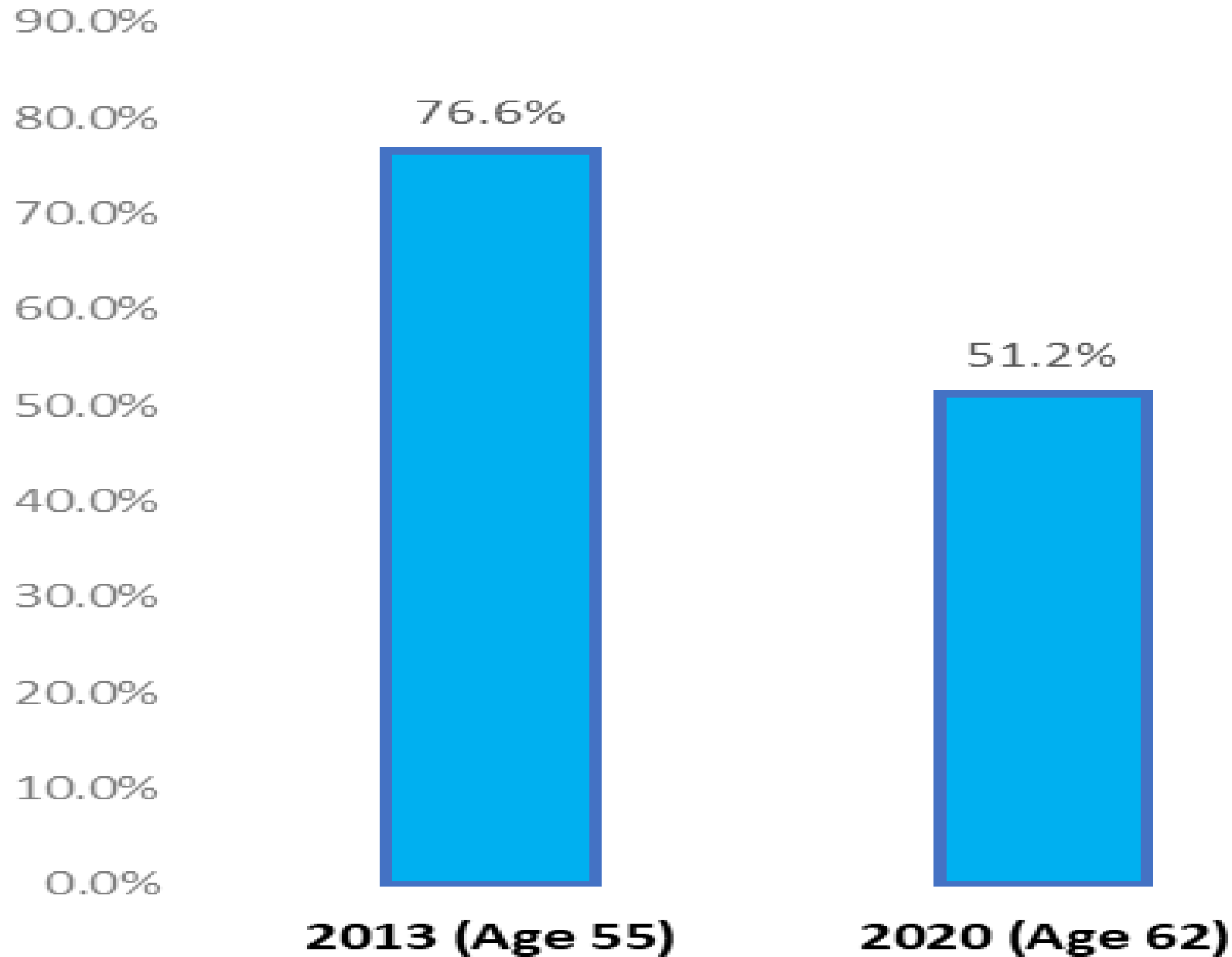


# Employment: Age 55 (2013), 62 (2020) and 63 (2021)



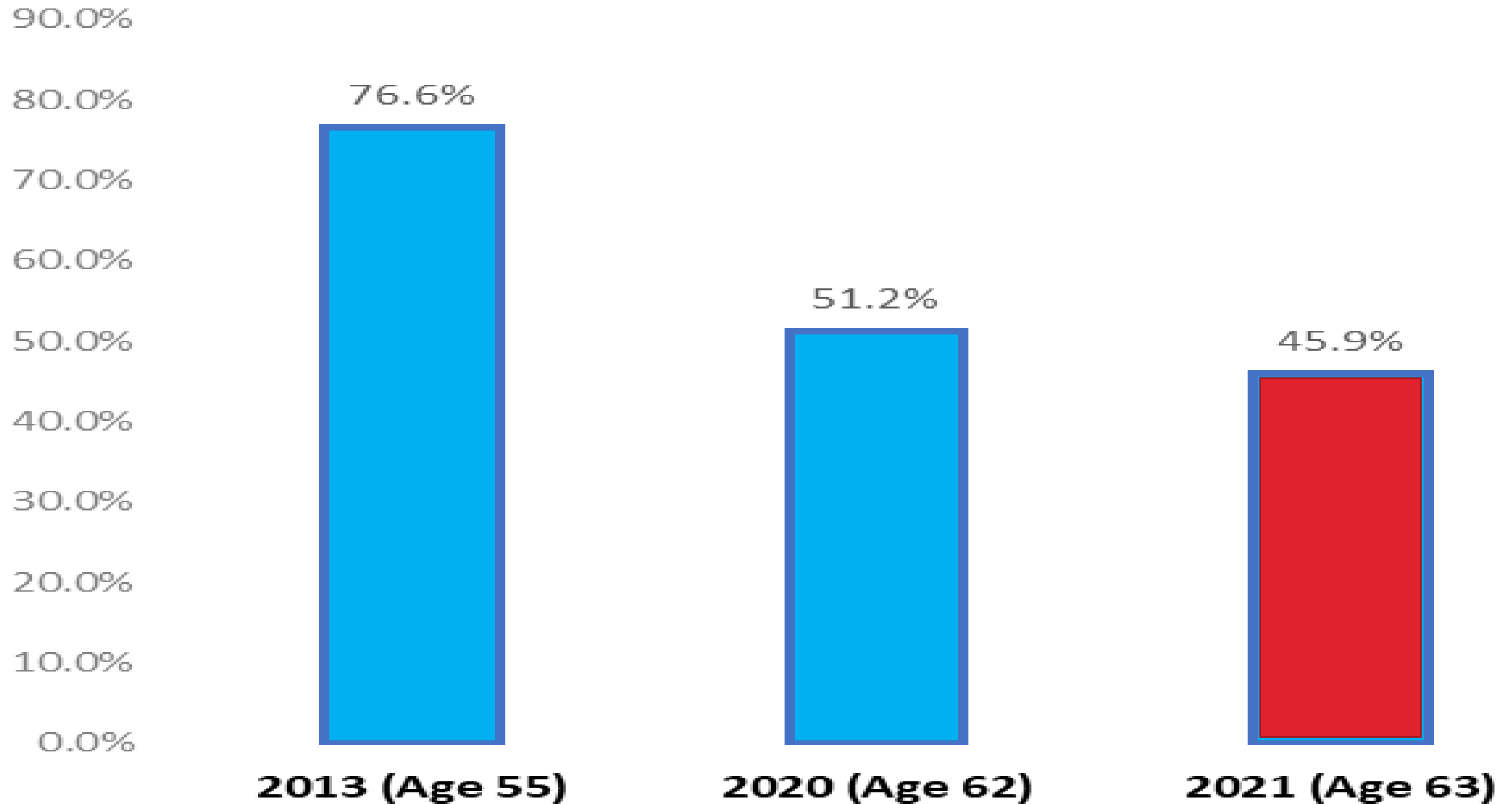
Moulton, V. et al, in progress

# Employment: Age 55 (2013), 62 (2020) and 63 (2021)

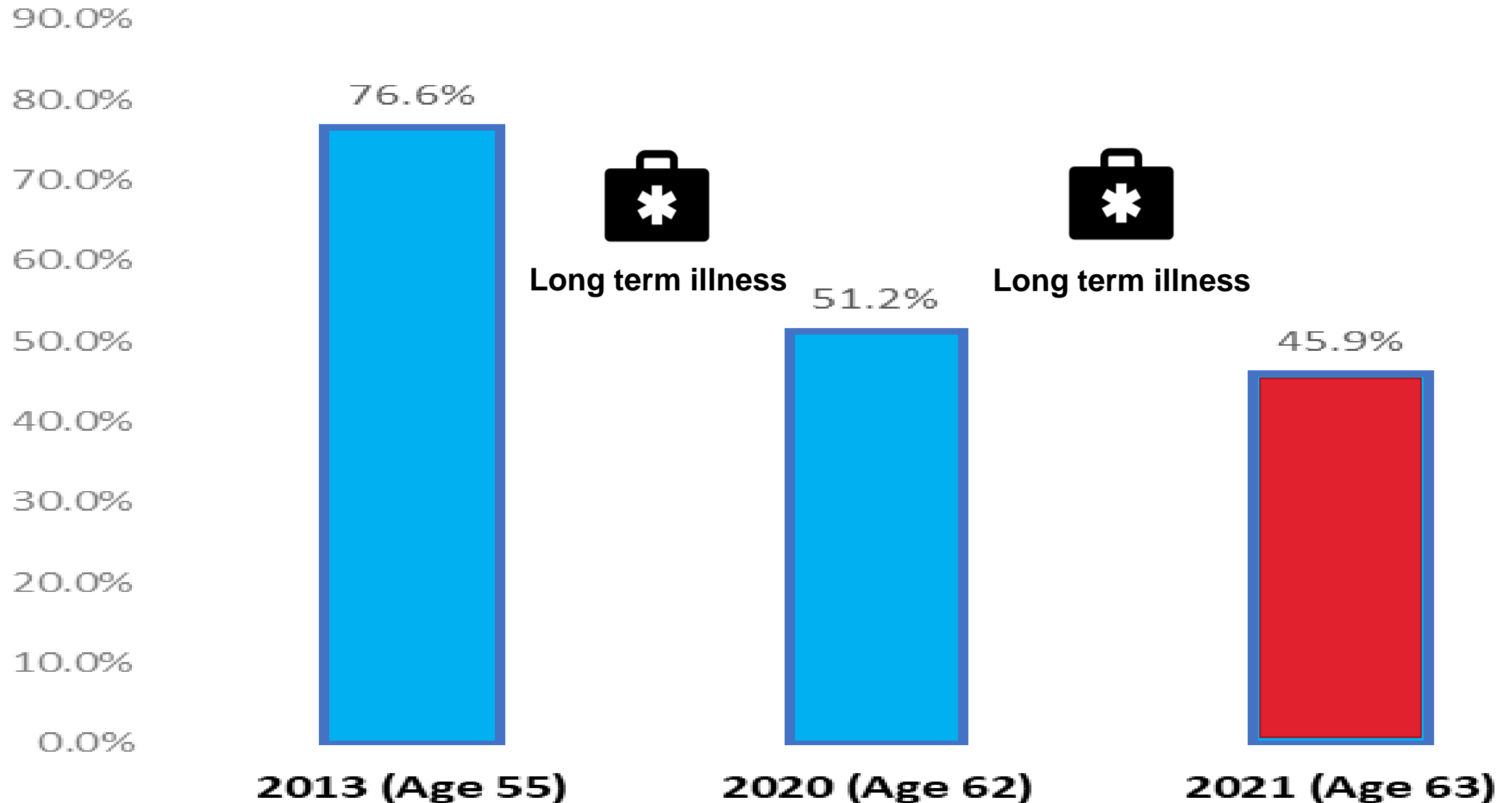


Moulton, V. et al, in progress

# Employment: Age 55 (2013), 62 (2020) and **63 (2021)**



# Employment: Age 55 (2013), 62 (2020) and 63 (2021)



# GENERATIONAL HEALTH DRIFT

More recently born post-war generations in the UK are experiencing a generational health drift across a wide range of health outcomes.

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## Baby Boomer Born in 1940s



## Generation X Born in 1970s



## Generation Z Born in 2000s



LESS

Mental  
health  
issues

Diabetes

Obesity

Poor  
self-rated  
health

Multi-  
morbidity

MORE



SPRINGER BRIEFS IN POPULATION STUDIES

George B. Ploubidis · Benedetta Pongiglione ·  
Bianca De Stavola · Rhian Daniel ·  
Lenka Benova · Emily Grundy ·  
Sanna Read

# Pathways to Health

 Springer

Social Science & Medicine 119 (2014) 258–265



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journal homepage: [www.elsevier.com/locate/socscimed](http://www.elsevier.com/locate/socscimed)



## Lifelong Socio Economic Position and biomarkers of later life health: Testing the contribution of competing hypotheses



George B. Ploubidis<sup>a,b,\*</sup>, Lenka Benova<sup>a</sup>, Emily Grundy<sup>c</sup>, Daniel Laydon<sup>d</sup>,  
Bianca DeStavola<sup>b</sup>

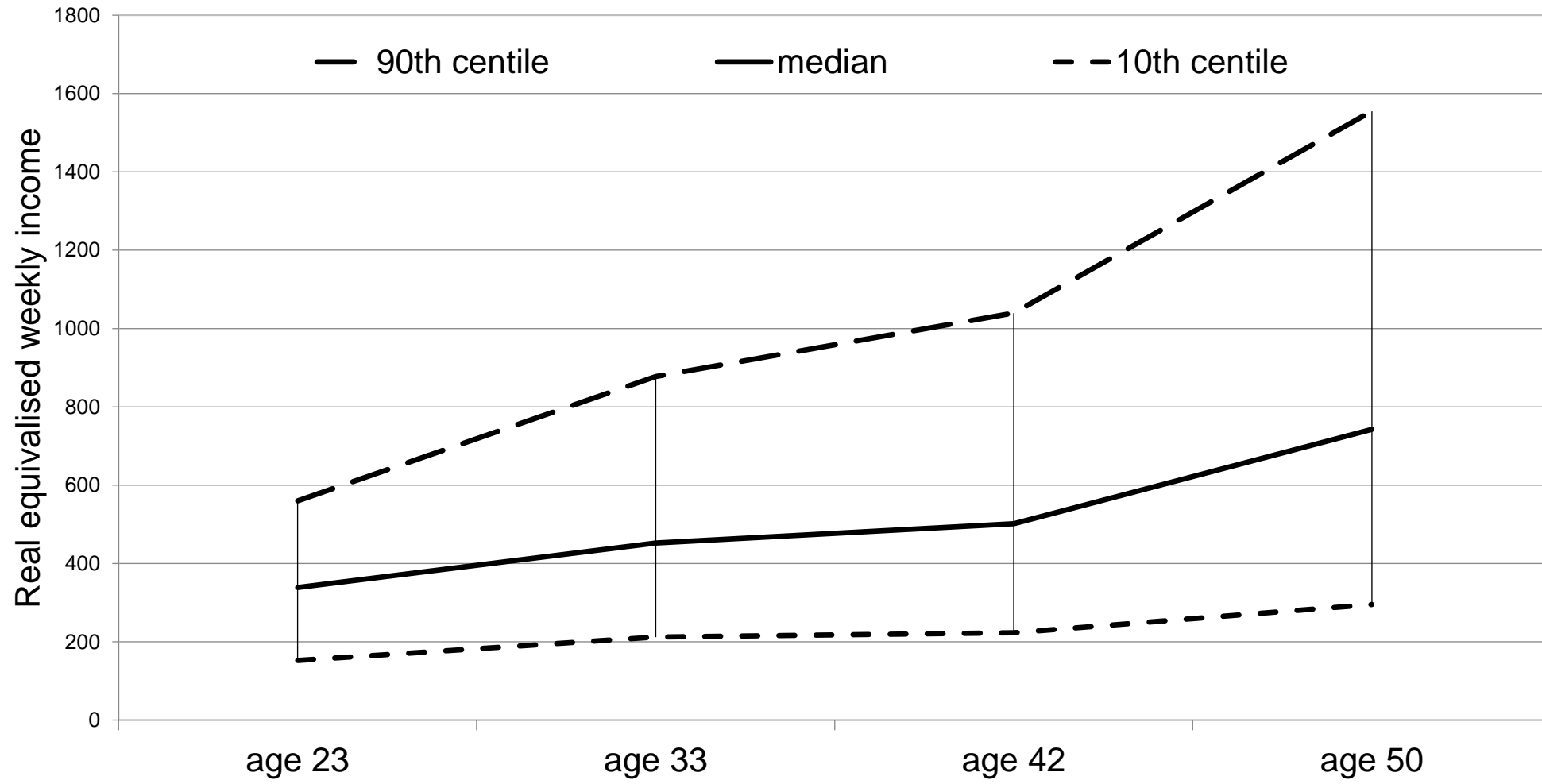
<sup>a</sup>Department of Population Health, Faculty of Epidemiology and Population Health, London School of Hygiene and Tropical Medicine, United Kingdom

<sup>b</sup>Centre for Statistical Methodology, Department of Medical Statistics, Faculty of Epidemiology and Population Health, London School of Hygiene and Tropical Medicine, United Kingdom

<sup>c</sup>Department of Geography, University of Cambridge, United Kingdom

<sup>d</sup>Faculty of Medicine, Imperial College, United Kingdom

# Net family income across a working lifetime



# Q&A

Please complete the feedback form

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